

THE FLORA AND FAUNA OF NUYTS ARCHIPELAGO AND THE
INVESTIGATOR GROUP.

No. 16.—THE CRUSTACEA.

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(*Contribution from the South Australian Museum.*)

[Read May 8, 1924.]

PLATES IV. AND V.

The following list of the Crustacea collected includes specimens dredged from the "Conqueror," in 3 to 4 fathoms, in the neighbourhood of the group of islands forming Nuyts Archipelago; others captured on Pearson and Flinders Islands, and a few examples taken on the mainland opposite to the Archipelago.

DECAPODA.

Suborder NATANTIA.

Tribe CARIDES.

Family PANDALIDAE.

PANDALUS, Leach.

Subgenus PARAPANDALUS, Borradaile.

In recording some specimens taken by the Expedition, it seems advisable to here discuss the forms taken in South Australian waters.

PANDALUS (PARAPANDALUS) LEPTORHYNCHUS, Stimpson.

Pl. iv., figs. 1-5.

Pandalus leptorhynchus, Stimpson, Proc. Acad. Nat. Sci., Philad., xii, 1861, Sp. 447; Haswell, Cat. Aust. Crust., 1882, p. 197.

Form very slender in male, slightly more robust in female. Rostrum sub-filiform, tapering, scarcely compressed, a little upwardly curved, slightly shorter or slightly longer than scaphocerites, distinctly longer than antennular peduncles, and less, or a very little longer, than the medial length of carapace; a slender, immovable, spine-like tooth on upper surface near base and from two to five smaller ones below, the first situated usually at about the middle of the length, the minute anterior one close to the acute rostral tip. First joint of antennular peduncle about twice as long as the second and third together, constricted in the middle and bent upwards in front of the constriction; base broad and produced laterally to form a scale with an acute apex, which does not attain to the level of the apex of the first peduncular joint; flagella subequal in length, longer than the peduncle. Scaphocerite rounded distally, the spine at termination of outer margin small. A distinct ocellus on dorsal margin of eye. Carapace with a slender median spine immediately behind base of rostrum, which forms a weak crest on the anterior portion of the carapace. Third segment of the abdomen with a depression on each side of the posterior margin, which is thus a little compressed to form a rounded median carina. Sixth segment twice as long as greatest width and about as long as telson. External maxillipeds not quite reaching to apex of antennal scale. First pair of legs very slender, extending as far forward as maxillipeds. Carpos of second pair three-jointed,

the second and third joints together about one-ninth longer than first, which is almost twice as long as the third; third pair longest, extending slightly beyond apex of antennal scale. Last three pairs slender, with the claw-like dactylus folding back against the propodus.

Length, from tip of rostrum to posterior margin of third abdominal segment (largest example), 21 mm.; rostrum, 7 mm.

Hab.—New South Wales: Port Jackson (Stimpson). South Australia: St. Vincent Gulf (W. H. Baker and H. M. Hale), St. Francis Island (Sir Joseph Verco), Ardrossan (Cadd). Western Australia: Geographe Bay, 15-16 fms. (Sir Joseph Verco).

The spines on the lower side of the rostrum vary in number, but usually three are present; in a series of fifty specimens from St. Vincent Gulf, three have two spines below (as described by Stimpson), thirty-one have three, fifteen have four, and one example has five. Specimens taken at Nuyts Archipelago represent a simple variety:—

Rostrum at least one-fourth longer than carapace and about twice as long as the antennular peduncles; almost straight anteriorly, curving gently upwards from the neighbourhood of the first inferior spine; with a single superior spine, near base, and three, four, or five spines below, regularly decreasing in size anteriorly; the first is placed at, or a little in advance of the posterior third of the rostrum, the last is minute, subapical. Antennular flagella subequal, extending as far as, or slightly beyond tip of rostrum.

Length (largest example), 23 mm.; rostrum, 8.7 mm.

Hab.—South Australia: Nuyts Archipelago (dredged from "Conqueror") and Spencer Gulf.

PANDALUS (PARAPANDALUS) LEPTORHYNCHUS, var. *gibber*, var. nov.

Pl. iv., figs. 6, 7.

♀. Rostrum a little longer than carapace, with a single dorsal spine near base and another distinct inferior spine near apex. Carapace with a spine behind base of rostrum. Third segment of abdomen strongly compressed dorsally, and elevated above the level of the preceding segments. Telson longer than sixth abdominal segment. Legs moderately stout; carpos of the second pair three-jointed, the second and third joints together one-half longer than the first, which is about one-third longer than the third joint.

Length, 31 mm.; rostrum, 10.5 mm. (S. Austr. Mus., Reg. No., C. 205).

Hab.—St. Vincent Gulf.

Two much damaged ovigerous females are in the collection. The characters given above, together with the figures, suffice to separate this variety.

Family PALAEMONIDAE.

LEANDER INTERMEDIUS, Stimpson.

Dredged from "Conqueror," 3-4 fms.

LEANDER SERENUS, Heller.

Hab.—Flinders and Pearson Islands; in rock pools.

Apparently no species of *Leander* has been previously noted from South Australia; the two forms recorded above are common.

LEANDER LITOREUS, McCulloch.

Hab.—Flinders Island; in rock pools.

Three specimens were taken in company with *L. serenus*. These two species have also been found associated at Glenelg, South Australia; both seem to frequent rock pools rather than the open sea and reefs, as does *L. intermedius*.

Suborder REPTANTIA.

Tribe ANOMURA.

Family CALLIANASSIDAE.

UPOGEBIA (GEBIOPSIS) BOWERBANKII, Miers.

Hab.—Smoky Bay; several small examples.

Family PAGURIDAE.

CLIBANARIUS STRIGIMANUS, White.

Hab.—Flinders Island; in a rock pool.

A large specimen from a *Fusus* shell. Soon after capture this example vacated its retreat and crawled about unprotected. The species was also taken by Sir Joseph Verco, in the Great Australian Bight, many years ago.

PAGURISTES SULCATUS, Baker.

Dredged from "Conqueror," 3-4 fms.

Tribe BRACHYURA.

Family DROMIIDAE.

CRYPTODROMIA OCTODENTATA, Haswell.

A specimen dredged from the "Conqueror" bears a sponge which is eight times the weight of the crustacean. This common species was on several occasions taken by the Federal trawler "Endeavour" in South Australian waters, one female being trawled "Fifteen miles south of St. Francis Isle, South Australia, 30 fms."

The two following Dromiid crabs were also taken by the "Endeavour" at the same locality:—

Dromidiopsis excavata, Stimpson.*Petalomera depressa*, Baker.

Family XANTHIDAE.

PILUMNUS TOMENTOSUS, Latreille.

Dredged from "Conqueror," 3-4 fms.

OZIUS TRUNCATUS, Milne-Edwards.

Flinders Island; under stones on beach.

Family GONEPLACIDAE.

LITOCHEIRA BISPINOSA, Kinahan.

Dredged from "Conqueror," 3-4 fms.

This common little species has been recorded from St. Vincent Gulf by McCulloch.

Family GRAPSIDAE.

LEPTOGRAPSUS VARIEGATUS, Fabricius.

Dredged from "Conqueror," 3-4 fms., and Flinders Island, in rock pools.

Examples from the island are of dark-grey colouration, matching that of the rocks from amongst which they were taken. In a specimen dredged away from shore, the predominant colour is dark red.

BRACHYNOTUS OCTODENTATUS, Milne-Edwards.

Hab.—Pearson and Flinders Islands; plentiful on coasts.

Mr. Waite notes that on Flinders Island "specimens were taken from a well, containing brackish water, used at the camp for the first meal only. The crabs

must have fallen in, and they could not possibly escape. Whether they bred in the well, or whether the numbers are maintained by new arrivals, it is not possible to say."

CYCLOGRAPUS AUDOUINII, Milne-Edwards.

Dredged from "Conqueror," 3-4 fms., and Flinders Island, under stones.

Family INACHIDAE.

NAXIA AURITA, Latreille.

Dredged from "Conqueror," 3-4 fms.

SCHIZOPHYRYS ASPERA, Milne-Edwards.

Dredged from "Conqueror," 3-4 fms.

Family HYMENOSOMATIDAE.

ELAMENA (TRIGONOPLAX) UNGUIFORMIS, De Haan,

var. *longirostris*, McCulloch (text fig. 1).

Elamena (Trigonoplax) unguiformis, De Haan, var. *longirostris*, McCull., Rec. Austr. Mus., vii., 1908, p. 59, pl. xii., fig. 3; Kemp, Rec. Ind. Mus., xiii., 1917, p. 278.

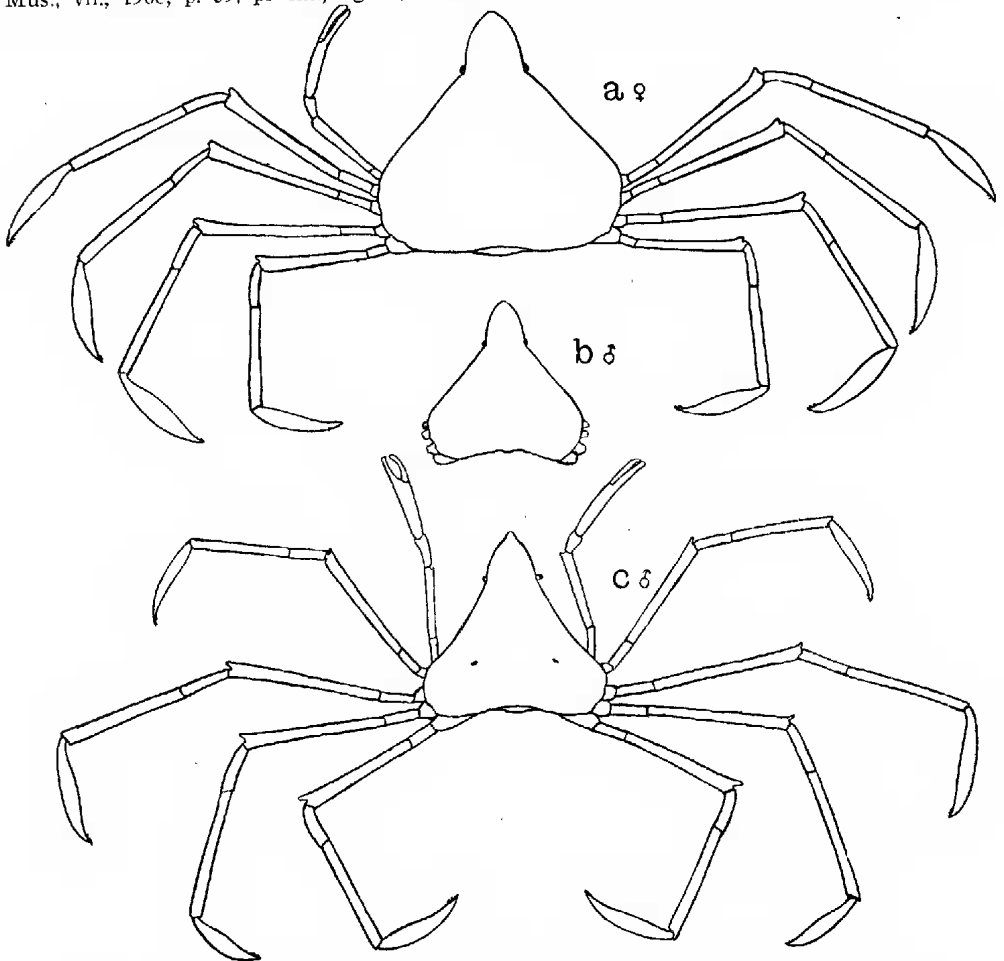


Fig. 1.

Elamena (Trigonoplax) unguiformis, var. *longirostris*; South Australian specimens.

Four males and four females from South Australia differ from the specimen figured by McCulloch in having the antero-lateral margins of the carapace almost straight and the sides of the rostrum evenly convex and converging regularly from base to apex (fig. 1, *a* and *b*). A ninth example has the sides of the carapace a little concave and the margin of the rostrum sinuate, thus more nearly approaching McCulloch's figure. In this last specimen the legs are relatively longer than in the others (fig. 1, *c*).

A single male was dredged from the "Conqueror," 3-4 fms.

Hab.—Victoria: Port Phillip (McCulloch, type loc.). South Australia: St. Vincent Gulf, Kangaroo Island (north coast), and Nuyts Archipelago.

ISOPODA.

Tribe FLABELLIFERA.

Family CIROLANIDAE.

Cirolana wood jonesi, n. sp.

Pl. v., text fig. 2.

Form moderately slender, very convex; a little variable in width, the greatest breadth two and two-thirds to almost three in the length.

Head wider than long, its medial length a little less than that of first thoracic segment. Eyes black, in lateral view longer than deep; upper margin almost straight; facets rather large, six to seven in a longitudinal series. First antennae extending to about middle of ultimate peduncular joint of second antennae; second antennae with third, fourth, and fifth peduncular articles subequal in length; flagellum variable in length, reaching back nearly to posterior margin of first thoracic segment, or a little beyond it, usually composed of from eighteen to twenty articles, but occasionally as many as twenty-seven are present. Frontal lamina about four times longer than greatest width, distinctly widened at anterior third, narrowed behind this, and again slightly dilated at posterior end; the front end not visible from above. Clypeus less than half as long as frontal lamina, and considerably shorter than the labrum; convex, with lateral margins elevated. Maxilliped with seven articles. Mandible with the three teeth of cutting part usually very distinct; occasionally the middle tooth is obsolete; palp composed of three articles. First thoracic segment much longer than any of the others, which are more or less subequal in length.

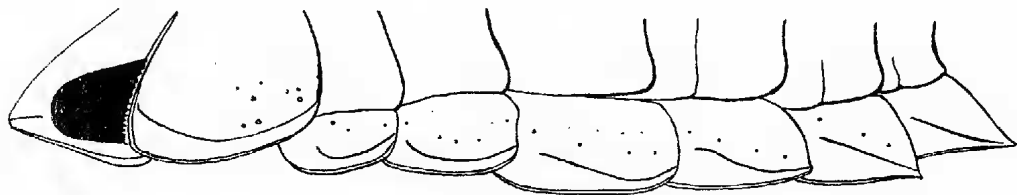


Fig. 2.

Thoracic epimera of *Cirolana wood jonesi*.

Epimera of second to seventh segments each with an oblique furrow (in addition to the obscure submarginal furrow) arising near the infero-posterior angle and curving forwards towards (but not reaching to) the middle of the posterior margin of the preceding epimeron; the furrow of the seventh epimeron does not reach to the posterior angle in most examples, but is occasionally obscurely continued to it. The second joint of the legs becomes increasingly expanded posteriorly, that of the first leg being barely more than three-eighths as wide

as the seventh, and widest. Seventh leg with the second joint much expanded, its greatest width being almost three-fourths of the length, and with lateral margins and inferior median ridge set with long, plumose hairs; third joint longer than any of the following joints; fourth slightly longer than fifth and a little shorter than the sixth joint. Lateral margins of telsonic segment convex, without apparent spines. Uropods moderately slender; endopod about two and one-third times longer than wide, reaching slightly beyond termination of abdomen, not notched near end of outer margin; exopod shorter than endopod, four times longer than broad.

Colour (during life), whitish, more or less suffused with red.

Length (largest example), 18 mm. (S. Austr. Mus., Reg. No., C. 228).

Hab.—South Australia: Elliston (Nuyts Archipelago Exped.), St. Vincent Gulf (H. Collyer and others), Beachport, 3-4 fms. (H. M. Hale).

The above description is based upon a series taken from the body cavity of a Port Jackson shark (*Heterodontus phillipi*) collected by Mr. Collyer; there are also before me examples taken from a seven-gilled shark (*Notidanus indicus*). The Elliston specimens are mostly of small size and were captured on bait when line fishing. The species was dredged at Beachport and found buried in wet sand at the water's edge near the Outer Harbour.

As mentioned above, the flagellum of the second antennae varies in length and in the number of articles of which it is composed; the variation is not according to age. *C. wood jonesi* somewhat resembles *C. borealis*, Lilljeborg, and is still more closely allied to *C. gallica*, Hansen, from France. It may be distinguished from the last-named species by the straighter upper margin of the eye and by the less oblique furrows of the epimera of the fourth to sixth thoracic segments; in *C. gallica* each of these furrows is directed forwards and upwards towards the middle of the thoracic segment above. The presence of the oblique furrows at once separates *C. wood jonesi* from *C. borealis*.

Of the Australian species it, in some respects, approaches *C. tenuistylis*, Miers,⁽¹⁾ which is rather briefly described; according to Miers' figure, however, the eye of that species is subcircular in lateral view, the frontal lamina is of different shape, and there are no oblique furrows on the thoracic epimera.

Family SEROLIDAE.

The following species were dredged "off St. Francis Island, 6-13 fms.," by Sir Joseph Verco, and were recorded by Dr. Chas. Chilton⁽²⁾:—*Serolis tuberculata*, Grube; *S. longicaudatus*, Beddard; *S. minuta*, Beddard.

EXPLANATION OF PLATES IV. AND V.

PLATE IV.

- Fig. 1. *Pandalus (Parapandalus) leptorhynchus*; female, St. Vincent Gulf, (enlarged 2½ diams.).
 " 2. Dorsal view of cephalothorax of same (enlarged 5 diams.).
 " 3. Carapace of *P. leptorhynchus*, var.; female, Nuyts Archipelago (enlarged 3 diams.).
 " 4. Dorsal view of cephalothorax of same (enlarged 5 diams.).
 " 5. Second leg of *P. leptorhynchus* (enlarged 14 diams.).
 " 6. *P. leptorhynchus*, var. *gibber*; female, St. Vincent Gulf (enlarged 3 diams.).
 " 7. Second leg of same (enlarged 14 diams.).

(1) Miers, Zool., "Alert," 1884, p. 303, pl. xxxiii., fig. b.

(2) Chilton, Trans. Roy. Soc. S. Austr., xli., 1917, pp. 393-397.

PLATE V.

Civolana wood jonesi.

- Fig. 1. Lateral view.
" 2. Dorsal view.
" 3. Ventral view of head (maxillipeds removed).
" 4. Front view of same to show frontal lamina.
" 5. First antenna.
" 6. Second antenna.
" 7. Mandible.
" 8. Distal part of molar process of mandible.
" 9. First maxilla.
" 10. Second maxilla.
" 11. Maxilliped.
" 12. First leg.
" 13. Seventh leg.
" 14. Telsonic segment and uropods.
" 15. Right pleopod of second pair of malc.

Figs. 1 and 2, enlarged 4 diams.; fig. 8, enlarged 100 diams.; figs. 12, 13, and 15, enlarged 10 diams.; remainder of figs., enlarged 20 diams.
